



- **FIBRECOM INFRASTRUCTURE - STEWARDSHIP AND THE ROLE OF NATIONAL FIBRE AS AN ENABLER OF FUTURE NETWORKS: THE AFRICAN CONTEXT**

Why Fibre Matters

****There is no QoE without a fibre foundation****

Fibrecom leverages the ZESCO legacy of "Utility-Grade DNA" to provide virtually unlimited scaling and unmatched reliability.

 **Low Latency:** Crucial for real-time grid protection and 5G apps

 **High Reliability:** Immune to atmospheric interference compared to wireless.

 **OPGW/ADSS Edge:** Simultaneous grid-fibre rollout for rapid deployment.

 **Utility-Grade DNA:** Built for grid protection, repurposing for national transit.

 **Simultaneous Rollout:** Grid expansion is fibre expansion.

Strategic Technical Evolution

Legacy Origins

PLC and Microwave Radio links for SCADA.

Phase 1 and 2

STM-16 (2.5G) upgrade to 10G DWDM.

Phase 3

OTN High Capacity and GPON rollout.

Phase 3.5+

National Redundancy and Renewable Integration.

Fibrecom OTN Space: Transitioning from legacy protection schemes to the high-capacity futuristic PTN/OTN space required for next-generation network demands.

STEWARDSHIP

- National fiber infrastructure is the essential backbone of Africa's digital transformation, acting as the primary enabler for 5G, AI, and cloud services while bridging the rural-urban digital divide. It provides the necessary capacity to reduce latency, localize internet traffic, and lower high data costs, directly stimulating regional economic growth and digital inclusion



Supporting Economic Recovery Tough Situations



| THE AFRICAN REALITY: LOCAL INSIGHTS

Challenges

High cost per km of fibre deployment, urban congestion, rural density issues, cross-border inefficiencies and transit costs, and fragmented infrastructure present significant hurdles.

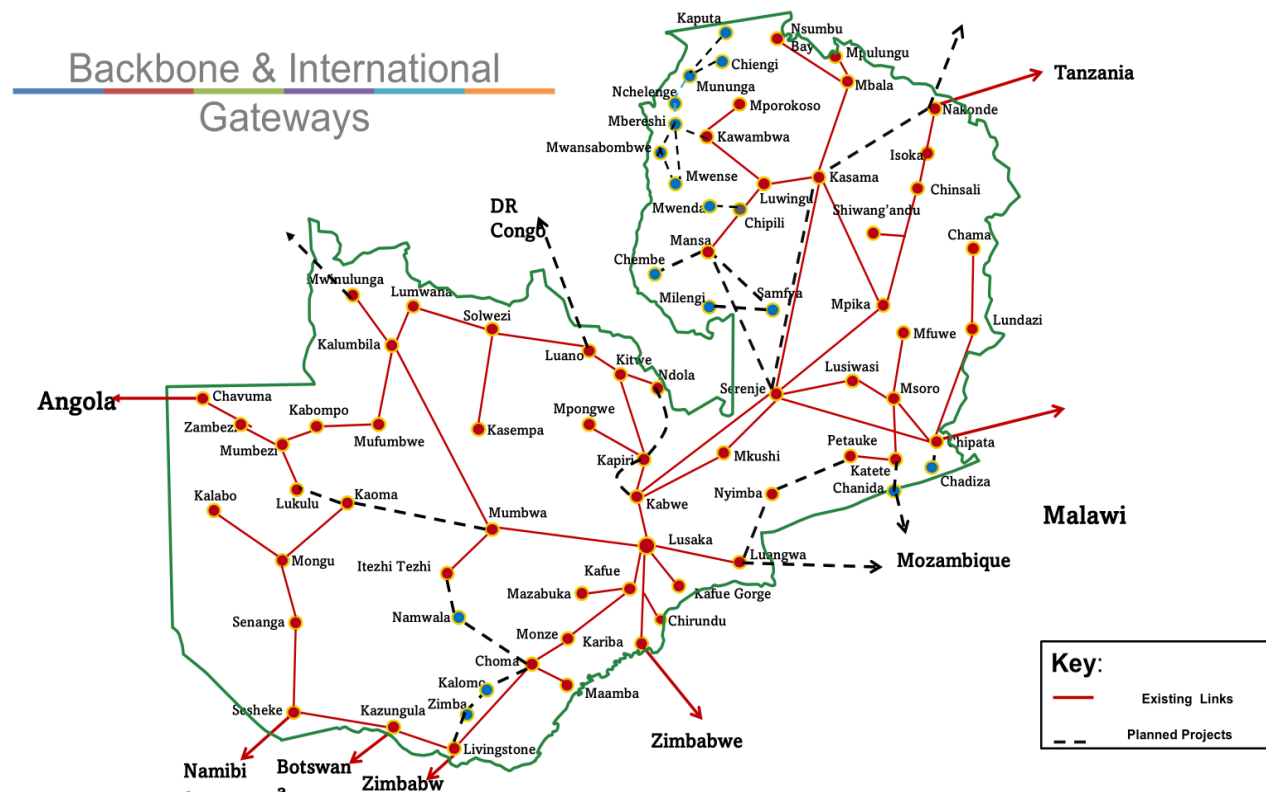
Impact

Instability in Quality of Service (QoS) leads to degradation in Quality of Experience (QoE) for users.

QoS instability leads to QoE degradation.

THE ROLE OF NATIONAL FIBRE AS AN ENABLER OF FUTURE NETWORKS –THE AFRICAN CONTEXT

Fibre is key to Africa's ambitions in the Fourth Industrial Revolution (4IR), supporting smart cities, AI, precision agriculture, and the rapid expansion of data centres.



| Infrastructure Scale and Reach

15,000

KM BACKBONE FIBRE

+

5,000+

KM METRO FIBRE

4+ TB

NETWORK CAPACITY

Spanning all 10 provinces of Zambia, Fibrecom provides the redundant backbone essential for both rural connectivity and metropolitan high-density requirements.

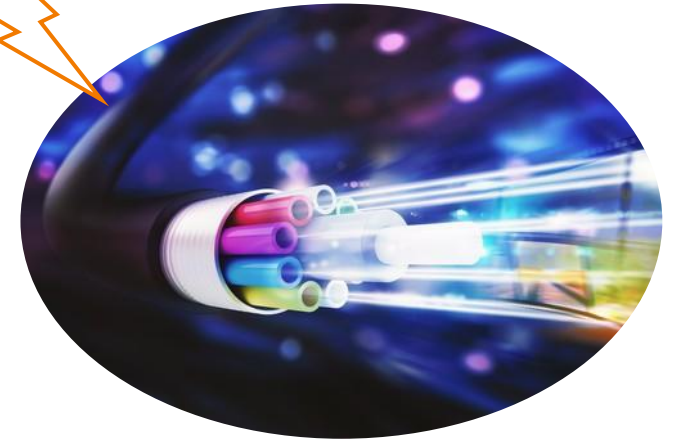
Fibrecom
Your Absolute Connection
AN ENABLER OF FUTURE NETWORKS



**Mobile Network
Providers**



ISP



Carrier of Carriers

Providing ICT Services to All Sectors



Republic of Zambia
SMART Zambia
Institute



Banking

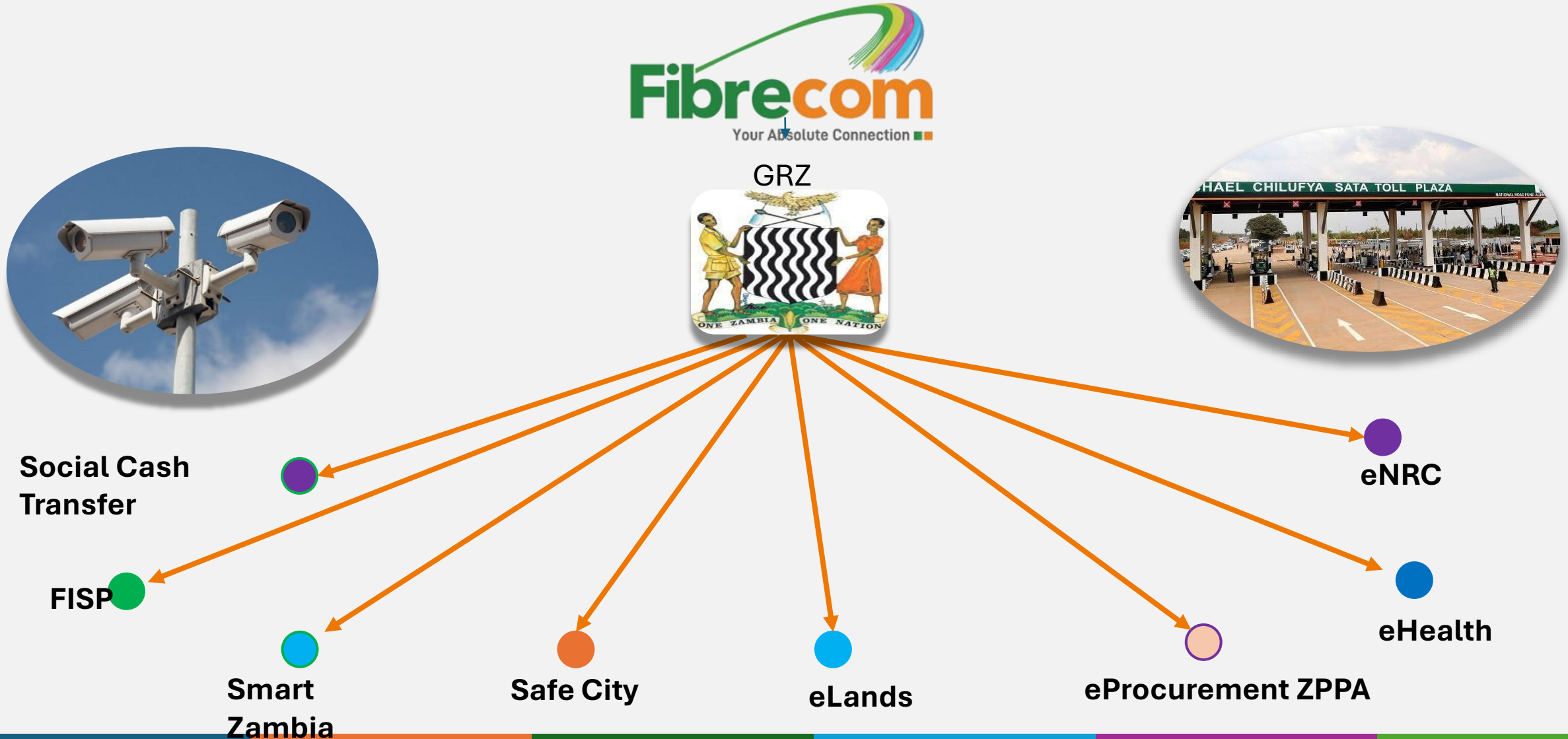


Mining



Education

Playing Pivotal Role in accelerating the implementation of Digital Transformation



ICT operators connecting to our solar powered backbone

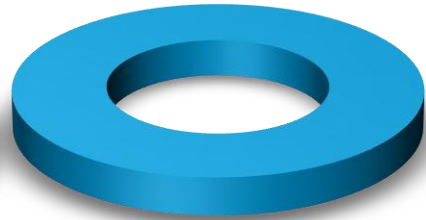


Fibrecom
Your Absolute Connection

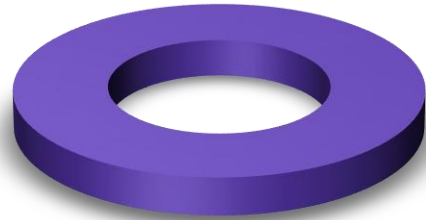
Leveraging technology to sustain various forms of trade



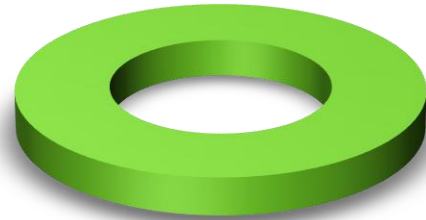
E-Commerce



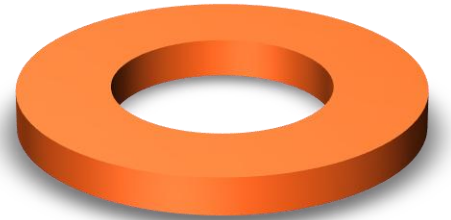
E-Learning



Virtual Business



Digital Marketing



E-Business

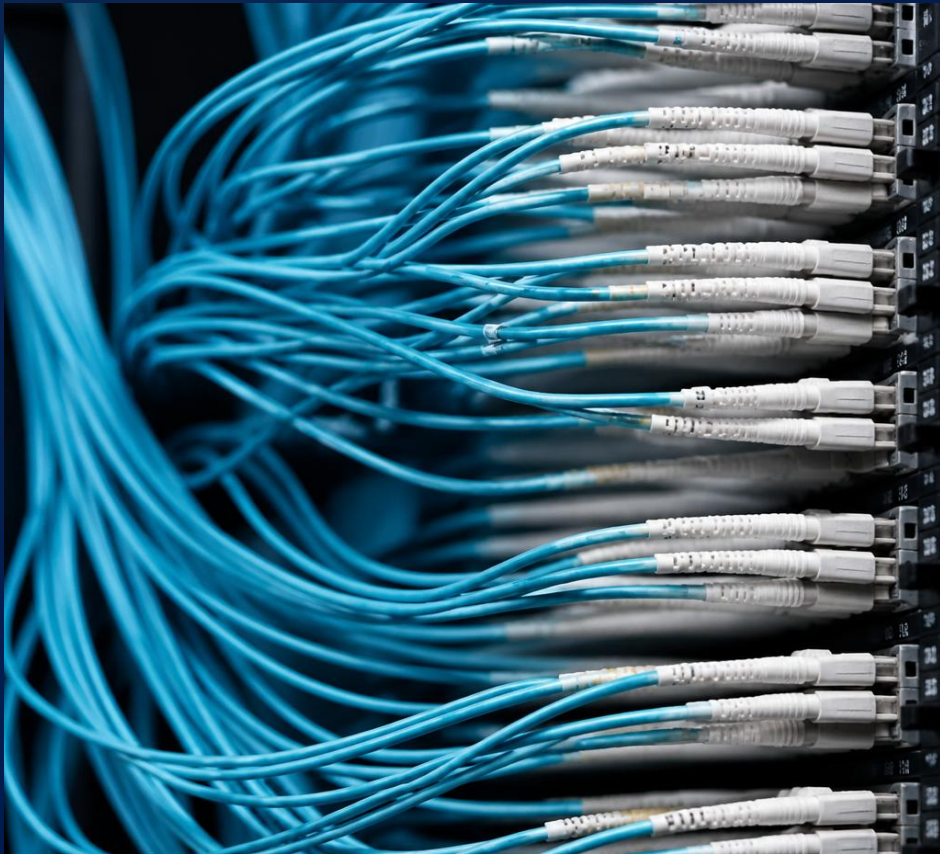
Fibrecom's Pivotal Role

Infrastructure Steward

We are not just a bandwidth supplier; we are the guardians of the digital foundation that makes QoE possible across Zambia.

- ☒ National backbone provider
- ☒ Regional interconnect hub
- ☒ QoE enabler through infrastructure

FIBRE + FUTURE NETWORKS: THE CONVERGENCE



5G/IMT 2020

Requires robust fibre backhaul for high bandwidth and low latency.

Edge Computing

Demands extremely low latency, necessitating proximity and high-speed connectivity.

Cloud Computing

Relies on deterministic routing for predictable and reliable data flow.

Future networks are fundamentally dependent on fibre density. Without it, the entire infrastructure risks collapse.

CALL TO ACTION

The Future of Digital Economies



**Standardize QoE
measurement
frameworks**

Establish consistent methods
for measuring the Quality of
Experience.



**Invest in fibre as critical
infrastructure**

Prioritize and fund fibre optic
networks as essential
components of digital
economies.



**Align operators with ITU-T
standards**

Ensure telecommunication
operators adhere to
international standards set by
ITU-T.

QoE is the new currency of digital economies.